WHAT IS CLAIMED IS:

1   1.   A method of designing a semiconductor device, the method

2   comprising:

3   maintaining a circuit design parameter file for a

4   circuit being designed, the circuit design parameter file

5   specifying a physical characteristic of the circuit;

6   monitoring a design environment to detect the

7   addition of a circuitry component to the circuit;

8   accessing a component design parameter file that

9   specifies at least one design parameter for that added

10   circuitry component; and

11   updating the circuit design parameter file based on

12   the at least one design parameter included in the

13   component design parameter file.

1   2.   The method of claim 1 further comprising providing the

2   circuit designer with feedback concerning the physical

3   characteristic of the circuit being designed.

1   3.   The method of claim 1 further comprising allowing the

2   circuit designer to request feedback concerning the physical

3   characteristic of the circuit being designed.

1   4.   The method of claim 3 further comprising providing the

2   circuit designer with feedback concerning the physical

3   characteristic of the circuit being designed in response to

4   the circuit designer requesting the same.

1 5. The method of claim 1 wherein the physical characteristic

2 is the total silicon area required to construct the circuit

3 being designed, and the at least one design parameter is the

4 silicon area required to construct the added circuitry

5 component.

1 6. The method of claim 5 wherein said updating the circuit

2 design parameter file includes recalculating the total silicon

3 area required to construct the circuit being designed so that

4 it includes the silicon area required to construct the added

5 circuitry component.

1 7. The method of claim 1 wherein the physical characteristic

2 is the total number of gates required to construct the circuit

3 being designed, and the at least one design parameter is the

4 number of gates required to construct the added circuitry

5 component.

1 8. The method of claim 7 wherein said updating the circuit

2 design parameter file includes recalculating the total number

3 of gates required to construct the circuit being designed so

4 that it includes the number of gates required to construct the

5 added circuitry component.

1 9. The method of claim 1 wherein the physical characteristic

2 is the total number of transistors required to construct the

3 circuit being designed, and the at least one design parameter

4   is the number of transistors required to construct the added

5   circuitry component.

1   10.   The method of claim 9 wherein said updating the circuit

2   design parameter file includes recalculating the total number

3   of transistors required to construct the circuit being

4   designed so that it includes the number of transistors

5   required to construct the added circuitry component.

1   11.   The method of claim 1 wherein the physical characteristic

2   is the total number of cells required to construct the circuit

3   being designed, and the at least one design parameter is the

4   number of cells required to construct the added circuitry

5   component.

1   12.   The method of claim 11 wherein said updating the circuit

2   design parameter file includes recalculating the total number

3   of cells required to construct the circuit being designed so

4   that it includes the number of cells required to construct the

5   added circuitry component.

1   13.   The method of claim 1 wherein the physical characteristic

2   is the total amount of power required to power the circuit

3   .being designed, and the at least one design parameter is the

4   amount of power required to power the added circuitry

5   component.

1   14.   The method of claim 13 wherein said updating the circuit

2   design parameter file includes recalculating the total amount

3   of power required to power the circuit being designed so that

4   it includes the amount of power required to power the added

5   circuitry component.

1   15.   The method of claim 1 further comprising monitoring a

2   design environment to detect the deletion of a circuitry

3   component from the circuit being designed.

1   16.   The method of claim 15 further comprising accessing a

2   component design parameter file that specifies at least one

3   design parameter for that deleted circuitry component.

1   17.   The method of claim 16 further comprising updating the

2   circuit design parameter file based on the at least one design

3   parameter included in the component design parameter file for

4   that deleted circuitry component.

1   18.   An estimation process for designing a semiconductor

2   device comprising:

3   a parameter file maintenance process for maintaining

4   a circuit design parameter file for a circuit being

5   designed, the circuit design parameter file specifying a

6   physical characteristic of said circuit;

7   a design space monitoring process for monitoring a

8   design environment to detect the addition of a circuitry

9   component to said circuit;

10   a component file access process for accessing a

11   component design parameter file that specifies at least

12   one design parameter for said added circuitry component;

13   and

14   a parameter file updating process for updating said

15   circuit design parameter file based on said at least one

16   design parameter included in said component design

17   parameter file.

1   19.   The process of claim 18 further comprising a feedback

2   display process for providing the circuit designer with

3   feedback concerning said physical characteristic of said

4   circuit being designed.

1   20.   The process of claim 18 further comprising a feedback

2   request process for allowing the circuit designer to request

3   feedback concerning said physical characteristic of said

4   circuit being designed.

1   21.   The process of claim 20 further comprising a feedback

2   display process for providing the circuit designer with

3   feedback concerning said physical characteristic of said

4   circuit being designed in response to the circuit designer

5   requesting the same.

1   22. The process of claim 18 wherein said physical

2   characteristic is the total silicon area required to construct

3   said circuit being designed, and said at least one design

4   parameter is the silicon area required to construct said added

5   circuitry component.

1   23. The process of claim 22 wherein said parameter file

2   updating process includes an area recalculation process for

3   recalculating the total silicon area required to construct

4   said circuit being designed so that it includes the silicon

5   area required to construct said added circuitry component.

1   24. The process of claim 18 wherein said physical

2   characteristic is the total number of gates required to

3   construct said circuit being designed, and said at least one

4   design parameter is the number of gates required to construct

5   said added circuitry component.

1   25. The process of claim 24 wherein said parameter file

2   updating process includes a gate recalculation process for

3   recalculating the total number of gates required to construct

4   said circuit being designed so that it includes the number of

5   gates required to construct said added circuitry component.

1   26. The process of claim 18 wherein said physical

2   characteristic is the total number of transistors required to

3   construct said circuit being designed, and said at least one

4   design parameter is the number of transistors required to

5   construct said added circuitry component.

1   27.   The process of claim 26 wherein said parameter file

2   updating process includes a transistor recalculation process

3   for recalculating the total number of transistors required to

4   construct said circuit being designed so that it includes the

5   number of transistors required to construct said added

6   circuitry component.

1   28.   The process of claim 18 wherein said physical

2   characteristic is the total number of cells required to

3   construct said circuit being designed, and said at least one

4   design parameter is the number of cells required to construct

5   said added circuitry component.

1   29.   The process of claim 28 wherein said parameter file

2   updating process includes a cell recalculation process for

3   recalculating the total number of cells required to construct

4   said circuit being designed so that it includes the number of

5   cells required to construct said added circuitry component.

1   30.   The process of claim 18 wherein said physical

2   characteristic is the total amount of power required to power

3   said circuit being designed, and said at least one design

4   parameter is the amount of power required to power said added

5   circuitry component.

1   31. The process of claim 30 wherein said parameter file

2   updating process includes a power recalculation process for

3   recalculating the total amount of power required to power said

4   circuit being designed so that it includes the amount of power

5   required to power said added circuitry component.

1   32. The process of claim 18 wherein said design space

2   monitoring process is configured to monitor a design

3   environment to detect the deletion of a circuitry component

4   from the circuit being designed.

1   33. The process of claim 32 wherein said component file

2   access process is configured to access said component design

3   parameter file that specifies at least one design parameter

4   for said deleted circuitry component.

1   34. The process of claim 33 wherein said parameter file

2   updating process is configured to update said circuit design

3   parameter file based on said at least one design parameter

4   included in said component design parameter file for said

5   deleted circuitry component.

1   35. A computer program product residing on a computer

2   readable medium having a plurality of instructions stored

3   thereon which, when executed by the processor, cause that

4   processor to:

5   maintain a circuit design parameter file for a

6   circuit being designed by a circuit designer, wherein the

7   circuit design parameter file specifies a physical

8   characteristic of the circuit;

9   monitor a design environment to detect the addition

10   of a circuitry component to the circuit;

11   access a component design parameter file that

12   specifies at least one design parameter for that added

13   circuitry component; and

14   update the circuit design parameter file based on

15   the at least one design parameter included in the

16   component design parameter file.

1   36.   The computer program product of claim 35 wherein said

2   computer readable medium is a hard disk drive.

1   37.   A processor and memory configured to:

2   maintain a circuit design parameter file for a

3   circuit being designed by a circuit designer, wherein the

4   circuit design parameter file specifies a physical

5   characteristic of the circuit;

6   monitor a design environment to detect the addition

7   of a circuitry component to the circuit;

8   access a component design parameter file that

9   specifies at least one design parameter for that added

10   circuitry component; and

11   update the circuit design parameter file based on

12   the at least one design parameter included in the

13   component design parameter file.

1   38.   The processor and memory of claim 37 wherein said

2   processor and memory are incorporated into a personal

3   computer.